

## Search and Rescue

The Ministry of Transport maintains Coast Guard Rescue Officers at the Canadian Armed Forces Search and Rescue centres at Halifax, N.S., Trenton, Ontario, and Vancouver, B.C. Each of these centres is the headquarters for a co-ordinated network of agencies trained to search for and rescue vessels in distress.

The Coast Guard Rescue Officers at these centres distribute booklets covering the marine rescue organization for their respective areas. These booklets may be obtained free of charge on application to the following:

Atlantic Area:	Great Lakes Area:	Pacific Area:
Coast Guard Rescue Officer, Room 116, Maritime Headquarters, H.M.C. Dockyard, Halifax, N.S.	Coast Guard Rescue Officer, Air Transport Command Canadian Forces Base, Trenton, Ont.	Coast Guard Rescue Officer, Kitimat Coast Guard Base, 1661 Whyte Ave., Vancouver 9, B.C.

Here is how you and your fellow power boat operators and owners of sailboats can assist in searches and help cut down on false alarms.

- (a) Your boat or yacht club should appoint a safety officer for the day or week and all arrivals and departures should be reported to him.
- (b) If you plan to go on a cruise, give your safety officer an itinerary, with estimated times of departure and arrival at your destination.
- (c) If you do not belong to a yacht club, you should acquaint a relative, neighbour or some responsible adult with your itinerary and arrange to contact them when you have arrived at your destination. They should be instructed that if you do not contact them by a certain time to get in touch with one of the three search and rescue centres.
- (d) If you change your plans while under way, call your home club or the person who knows your plans and possibly the police. This allays worry and prevents a needless alert that might set off a comprehensive air and marine search.
- (e) Carry the required charts and a serviceable compass in your boat at all times.
- (f) Always carry the international distress signal. This is a square flag or an object resembling a square flag, and a ball or other circular object hoisted either above or below it. Flag and ball need not be of any particular colour, but the brighter they are, the better.

In Canadian waters, the Maritime safety radio service is based primarily on the use of medium frequency (MF) radiotelephony. Coast Stations operated by the Ministry are strategically located to provide coverage of Canadian waters of the Great Lakes and sea coasts of Canada. All stations maintain a continuous watch for safety purposes on the international MF distress and calling frequency 2182 kHz. The MF service includes regular broadcasts of Marine weather and dangers to navigation.

The Ministry is also implementing a safety service on the very high frequency (VHF) Maritime band. Most of our coast stations keep a continuous watch on the international VHF safety and calling frequency 156.8 MHz. Plans are underway to provide continuous VHF coverage of Canadian waters of the Great Lakes, after which the VHF safety service will have primary status in that area. In coastal areas the VHF (line-of-sight) coverage is being extended as funds become available.

If you use two-way radiotelephone aboard your boat, the greatest efficiency in communication can be obtained by applying the correct procedures for calling and answering other stations and passing messages or

information. Such procedures and other pertinent information relating to the licensing and operating of radiotelephone equipment may be found in the Ministry's booklet entitled "Canadian Coastal Radiotelephone Service", which can be obtained free of charge from any Ministry of Transport Regional Office Telecommunications and Electronics Branch.

## Weather Information

Small vessel operators and boating enthusiasts in general are reminded of the importance they should attach at all times to the obtaining of information on the weather that may be expected in their areas.

Information on weather is widely disseminated throughout Canada by the daily press, as well as by radio-broadcast on the normal listening channels.

## Weather-Broadcasts

Rapid changes can occur in the weather, therefore, persons operating pleasure boats fitted with a radio-receiver should acquaint themselves with the times at which weather news is broadcast in their areas.

## Weather-Broadcasting System - National

The VHF safety service will also provide a continuous transcribed broadcast of Marine weather and dangers to navigation information on the frequency 161.65 MHz. This service will commence in the Great Lakes area in 1973, and will be extended to the East and West Coasts of Canada during 1973-74.

Small vessel owners can take advantage of these safety radio services by equipping their craft with two-way MF or VHF radiotelephony, as appropriate. Details of the services available are contained in the Ministry's publication "Radio Aids to Marine Navigation".

This publication is published in two separate volumes, one dealing with the Pacific Area and the other with the Atlantic and Great Lakes Areas. The two are issued simultaneously four times a year in March, June, September, and December. The Atlantic and Great Lakes volume is also available in the French language.

"Radio Aids to Marine Navigation" is published by Information Canada, Ottawa, at a cost of \$2.00 per year for each of the two volumes taken separately. Single copies may be obtained at a cost of 75 cents.

## Fishermen and Hunters

Here are some special tips for you.

- (a) Do not wear high cut boots, particularly of the open top rubber boot variety, in open boats. Carry a second pair of ankle boots for wearing in the boat.
- (b) Do not stand up when hunting or fishing from a small boat; remain seated.
- (c) Be particularly careful with your extra clothing and equipment, you do not overload your boat.
- (d) Do not attempt to take a small boat out into water where, if the weather deteriorates, you are unable to reach safety quickly.
- (e) Canoes should not be used for fishing or hunting, unless you are an experienced canoeist. These craft can be dangerous in the hands of the inexperienced.
- (f) In the fall and the spring when water temperatures are low, your chances of survival if you fall overboard are reduced considerably.

## Your Lifejacket

Lifejackets required by the Small Vessel Regulations must be of a type approved by the Ministry of Transport. This means that a prototype has been tested to standards formulated by a Committee under the auspices of the Canadian Government Specification Board and recognized by the Ministry.

The prototype testing includes laboratory tests of all the materials and component parts of the lifejacket, which is itself tested for performance capabilities by officials of the Ministry.

This jacket is intended to help you save your life if you become involved in an accident and find yourself in the water. To assist you, the following points are brought to your attention:

1. Try out the lifejacket. Put it on and familiarize yourself with the tie tape arrangements.
2. The jacket is reversible but it is important when using the keyhole style that the waist straps be tied around the body and not around the lifejacket. This allows the jacket to pivot away from the body and give the desired, inclined backward, floating position.
3. In order to familiarize yourself with the jacket's capabilities in the water, you should wade out into water about chest deep and by bending your knees let the buoyancy of the jacket support you. You will find that the lifejacket will incline you in a backward position with your mouth clear of the water.
4. If you have to swim while wearing a lifejacket, use a back or side stroke.
5. The responsibility for maintaining the jacket in good condition rests with you and the following points should be noted:
  - (a) do not abuse it by using it for any other purpose such as a seat cushion, boat fender or kneeling pad.
  - (b) when dry, store in well ventilated, cool areas.
  - (c) when wet, hang up to dry in the open air or a well ventilated area; do not dry it in front of a radiator or other source of direct heat.

Kapok lifejackets are susceptible to rough treatment. If the vinyl inserts containing the kapok are split or torn, water will come in contact with the kapok and the fibres can become water-logged and matted and lose their buoyant properties.

If a jacket feels heavy and damp, discard it.

Lifejackets made from unicellular foam are more durable than the kapok-filled type. Rough treatment will break down the foam cells, also, foam tends to shrink with age, by excessive exposure to heat or sunlight.

Children should be made to wear their lifejackets at all times when boating. They should be taught how to put them on and be allowed to try them out in the water. It is important that children feel comfortable in a lifejacket and know what it is for and how it will keep them afloat. Parents should note, however, that lifejackets do not take the place of adult supervision.

Children are difficult subjects to float in a safe position, because of the distribution of body weight and because a child tends to panic when finding itself suddenly in an environment to which it is not accustomed. The violent movement of their arms and legs in an attempt to "climb out" of the water, tends to nullify the stability of the lifejacket. Approved lifejackets will keep them afloat but not always in a face up position. Therefore, it is important to remember that a lifejacket is no substitute for adult supervision.

## Overloading of Rowboats

Overloading is dangerous. Because there are so many types of small boats, specific advice to cover all contingencies about overloading is not practical. How many people can be safely carried depends on several factors: type of boat, distribution of passengers and other equipment to be carried, etc. Common sense rates highly here.

The Ministry of Transport issues, as a rough guide only, the following notice for posting at holiday resorts, boat hiring stations and camp sites:

Length of Boat	Number of Persons	Max. Weight Load
10'	2	410 lbs.
12'	3	575 lbs.
14'	4	740 lbs.
16'	5	975 lbs.

For rough water conditions it would be advisable to remove one person from the boat before starting out. However, common sense should dictate whether the boat should put out at all in bad weather, and this particularly applies to boats under 10 feet in length which may only be suitable for operation in calm water.

## Overloading and Overpowering of Power Boats

Although the table given above may be used as a guide to the loading of rowboats, it does not apply when a motor is attached to a boat and your attention is drawn to the "Recommended Safe Load & Horsepower" section shown below.

An inexperienced person must be particularly careful when attaching an outboard motor to a boat and when starting the motor he should ensure that it is set in the straight ahead position. A motor started when it is turned one way or another may cause the boat to turn suddenly and capsize.

## Leakage of Gasoline

Inboard gasoline engines should have a drip pan covered with wire gauze fitted under the carburetor as well as suitable means for preventing gasoline from leaking into the bilges. In addition, if the engines are installed below deck or enclosed in any way, then back-fire flame arrestors should be fitted.

## Precautions when fuelling

- |                                |  |                            |
|--------------------------------|--|----------------------------|
| 1. Boat securely moored.       | 6. Extinguish open flames.               | 11. Open up and ventilate. |
| 2. No smoking.                 | 7. Passengers ashore.                    | 12. Test. Use your nose.   |
| 3. Take portable tanks ashore. | 8. Hold nozzle firmly against fill pipe. | 13. Start engines.         |
| 4. Hatchets and doors closed.  | 9. Don't overfill.                       | 14. Passengers re-embark.  |
| 5. No electrical switching.    | 10. Wipe up any spillage.                | 15. Cast off.              |

## Ventilation of Gasoline Powered Boats

The Small Vessel Regulations require that any enclosed space in which an inboard gasoline engine is installed shall be efficiently ventilated by suitable ventilators or an exhaust fan. Although this regulation applies only to inboard engines, it is nevertheless recommended that all enclosed spaces in both inboard and outboard powered boats be well ventilated if they contain fuel tanks or other sources of gasoline.

An explosion and fire can occur when an enclosed space containing an accumulation of gasoline vapours is inadequately ventilated. Accidental explosions usually occur when the engine is started and can produce disastrous results.

Efficient ventilation is achieved by fitting at least two ventilation ducts in each space containing engines or fuel tanks; one for exhaust and one for supply. An exhaust duct should lead from the bilges under the engines or fuel tanks to the atmosphere and a supply duct should extend from the atmosphere to a level below that of the carburetor intake. Supply and exhaust ducts should be as far apart as possible and arranged to give efficient ventilation of the space with the supply ducts at least four inches higher than the exhaust outlets. Depending on the size and arrangement of your boat the two ducts mentioned above may not be sufficient and additional ventilation should be fitted as necessary. In boats with deep V bottoms care should be taken to ensure that no pockets of gas accumulate due to lack of proper ventilation.

Each duct opening should be the same size and it is recommended that the minimum area of a duct opening should be equivalent to one square inch per foot of beam. The exterior ends of the ducts should have obstructed cowls or equivalent fittings with openings at least equal in area to the ducts.

Exhaust ducts may be fitted with wind-actuated self-trimming or rotary exhauster heads, or with a power operated exhaust fan.

If a power operated exhaust fan is fitted, the electric motor and the switch for operating the motor should be installed outside the ventilation duct and preferably outside the machinery space. If this is impracticable, the motor and/or an explosive proof switch may be installed within the machinery space.

An exhaust fan should be run for about five minutes before starting the engine.

## Liquefied Petroleum Gases

Liquefied petroleum gases such as propane, butane, etc. are coming into greater use on pleasure craft. These gases can create an even more hazardous condition on board ship than gasoline and, for this reason, their use on passenger carrying ships is forbidden by law. Propane and butane are heavier than air and will, therefore, flow rapidly into the lower parts of the boat where they are extremely difficult to remove.

If you install such equipment on your boat, be sure that the installation is in accordance with that of a governmental or equally impartial authority. For this purpose, you will find the Liquefied Petroleum Gas Regulations useful. These regulations apply to boats other than pleasure craft, but the requirements are as sound for pleasure craft as for work boats. A copy of the regulations may be obtained from Information Canada.

## Licensing of Vessels

Every vessel less than 15 registered tons, or in the case of a Pleasure Craft, not exceeding 20 registered tons, equipped with a motor or motors of 10hp or more, must be licensed. Licenses are provided on request from the nearest Custom House free of charge.

### DO

- Head for the nearest safe anchorage or landing when a storm threatens and avoid the temptation to "buck it".

- Obey the regulations regarding lifesaving equipment, using only that stamped or labelled "approved" by the Department of Transport.

- Assist any boat in distress. The waving, in a vertical circular motion, of a piece of light coloured material or a light by night is a distinctive distress signal.

- Slow down when passing dredges or water where divers may be working.

- Slow down when making sharp turns, and in bad weather.

- Slow down when passing row boats and canoes, especially in narrow waters.

- Learn the Rules of the Road and practise them.

- When operating at night, carry a few red flares in a watertight container; the red flares used on railroads are efficient and inexpensive.

- Keep the bilges of the boat clean; free of oil, gasoline and rags, etc. Vent any enclosed areas into the open air.

- Check the battery and its ventilation.

- Respect your boat and know its limitations.

- Obey the regulations regarding fire precautions and fire extinguishing equipment.

- Carry an anchor and sufficient length of sound cable, rope or chain — at least five times the average anchorage depth. Be sure that the inboard end of the line is securely fastened to the boat.

- Wear a lifejacket in a small boat whether or not lifesaving cushions are carried.

- Join a yacht or boat club if possible, and keep yourself fully informed on regulations, etc.

- When engaged in extended cruising carry the latest corrected charts and related publications in your boat at all times.

### DON'T

- Stand up or change seats in a small boat, particularly when the boat is fully loaded. If necessary, crouch low and keep the weight on the boat's centerline, holding on to both gunwales.

- Stand up when starting an outboard motor.

- Operate near swimmers.

- Mix liquor and boating.

- Use a leaky or poorly built boat.

- Cruise fast enough to create a dangerous swell when near small boats.

- Leave your tiller or steering wheel unattended when under way, especially in harbours, anchorages or narrow channels.

- Throw garbage overboard.

- Sound your horn or use the spotlight unnecessarily.

- Wait until the last minute to signify your intentions of obeying the Rules of the Road.

- Anchor close to other boats.

- Cruise at high speed in or near an anchorage.

- Hold impromptu races with other boats because row boats, canoes and other small craft are endangered by the wash.

- Attempt to swim ashore if your boat capsizes or is swamped. Hang on to the boat until you are picked up.

- Be a "show-off".

- "Buzz" bathing beaches; swimmers are hard to see in the water.

- Carry out-dated charts and related publications in your boat, and always use the latest corrected editions.



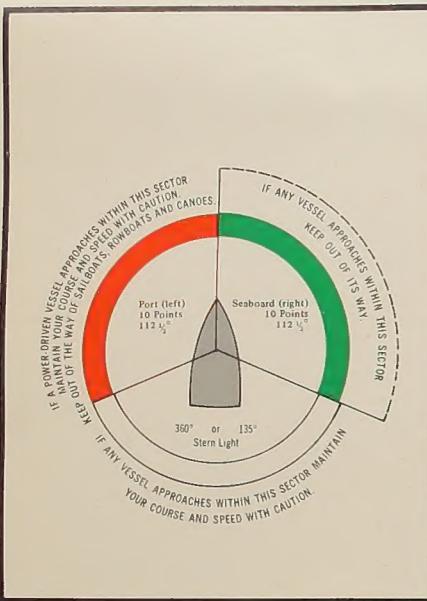
Applications for these plates are obtainable from any Customs Office, Steamship Inspection Office, or from the Ministry of Transport, Ottawa. Fill in all particulars, ensuring that precise measurements are entered in all the spaces provided. Mail the completed form in the free envelope provided, enclosing a cheque or money order in the amount of \$1.00 made payable to the Receiver General of Canada.

# LIGHTS FOR VESSELS NOT OVER 65 FEET IN LENGTH, IN CANADIAN WATERS

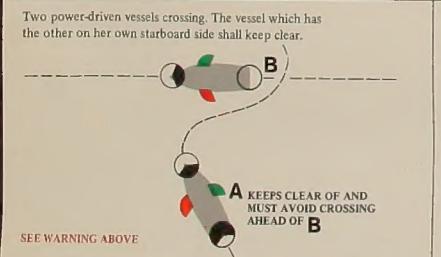
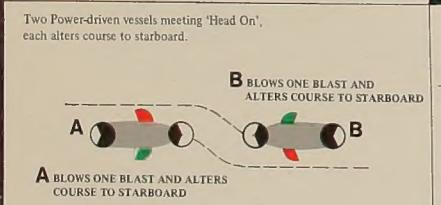
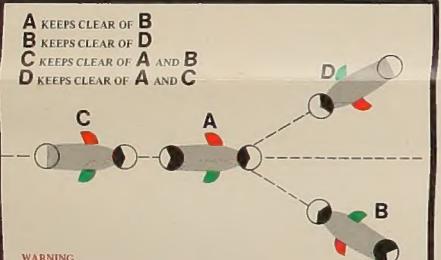
N.B. BOATS SAILING OUTSIDE CANADIAN WATERS ON BOTH EAST AND WEST COASTS MUST BE EQUIPPED WITH LIGHTS INDICATED BY AN ASTERISK \*

## LIGHTS

TO BE CARRIED FROM SUNSET TO SUNRISE



## SOME STEERING AND SAILING RULES – ILLUSTRATED

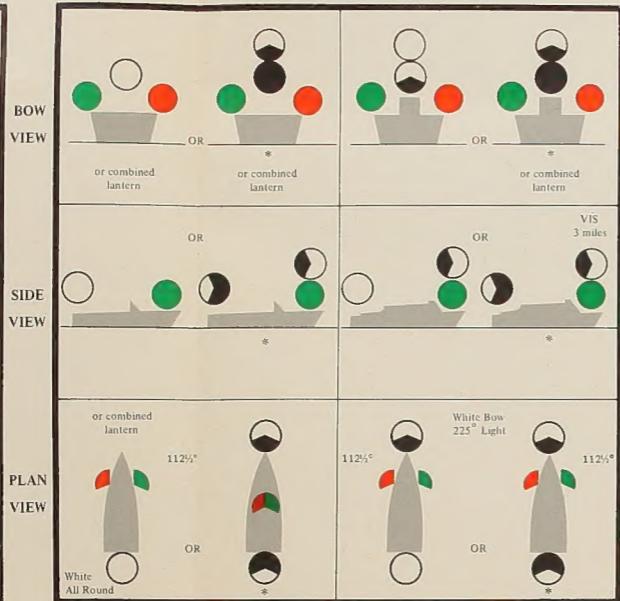


Air cushion vehicles when operating over water are required to obey the same rules as other power-driven vessels.

## UNDER POWER ALONE OR UNDER SAIL AND POWER

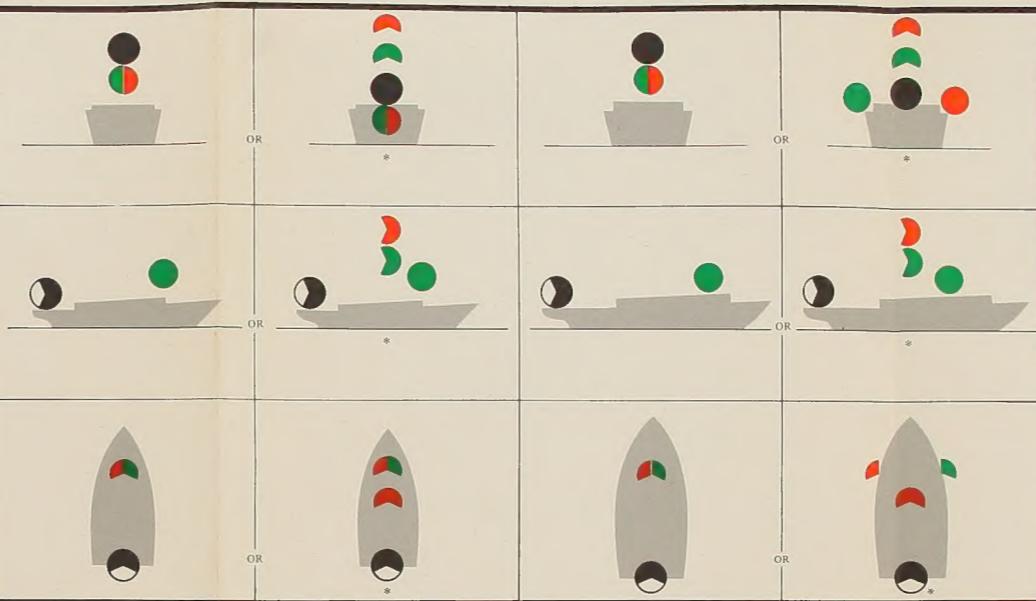
26' AND UNDER IN LENGTH

OVER 26' IN LENGTH



## UNDER SAIL ALONE

40' IN LENGTH AND OVER

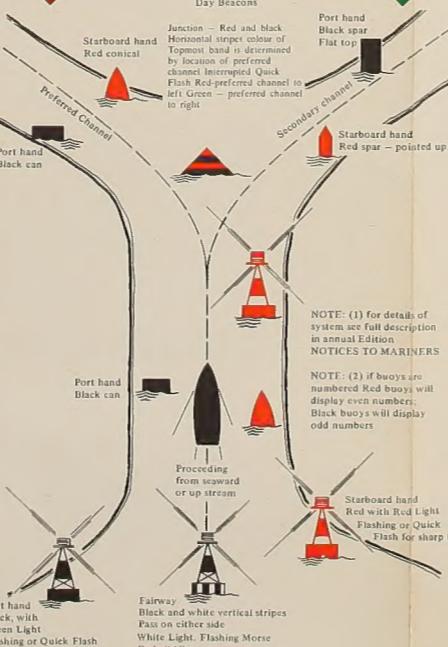
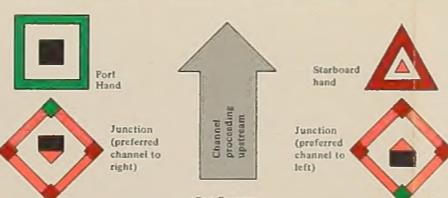
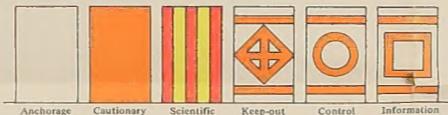


## SYMBOLS FOR LIGHTS

AS USED IN THIS GUIDE

	– Optional Sailboat Masthead Lights – 225° (Visibility 2 miles)
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	– Bow Light, White – 225° (Visibility 2 miles increased to 3 miles when used with 135° Stern Light)
	– All Round Stern Light, White – 360° (Visibility 2 miles)
	– Stern Light, White – 135° (Visibility 2 miles)
	– 135° Stern Light not visible from Bow
	– Port Light, Red – 112 1/2° Visibility 1 mile except 2 miles for Sailboat 40 ft or more in length
	– Starboard Light, Green – 112 1/2° Visibility 1 mile
	– Bow View Combined Lantern (Visibility 1 mile)
	– Plan View

## CANADIAN BUOYAGE SYSTEM



## REQUIREMENTS FOR PLEASURE CRAFT

under the Small Vessel Regulations  
(Recommended on rowboats and canoes, mandatory on power and sailing craft).

NOTE: "Approved" means approved by the Ministry of Transport.

### Not Over 18 Feet in Length

- One approved small vessel lifejacket or lifesaving cushion for each person on board.
- Two oars and rowlocks or two paddles.
- One bailer or one manual pump.
- If equipped with an inboard motor, permanently fixed or built-in fuel tanks or a cooking or heating appliance that burns liquid or gaseous fuel, one class BI fire extinguisher.

### Over 18 Feet But Not Over 26 Feet in Length

- One approved small vessel lifejacket for each person on board.
- Two oars and rowlocks, two paddles or one anchor with not less than 50 feet of cable, rope or chain.
- One bailer or one manual pump.
- If the vessel is power-driven or is equipped with a cooking or heating appliance that burns liquid or gaseous fuel, one class BI fire extinguisher.

### Over 26 Feet But Not Over 40 Feet in Length

- One approved small vessel lifejacket for each person on board.
- One approved 30 inch lifebuoy or two approved 24 inch diameter lifebuoys.
- One buoyant heaving line of not less than 50 feet in length.
- One bailer and one manual or power-driven bilge pump.
- Twelve pyrotechnic distress signals in a watertight container, of which not more than six may be daylight smoke signals.
- One anchor with not less than 50 feet of cable, rope or chain.
- If the vessel is power-driven or is equipped with a cooking or heating appliance that burns liquid or gaseous fuel, one class BI fire extinguisher.
- Sufficient lights and sound signalling apparatus to permit the vessel to be operated in compliance with Part VI of Small Vessel Regulations.

### Over 40 Feet But Not Over 65 Feet in Length

- One approved standard lifejacket or one approved small vessel lifejacket for each person on board.
- One approved 30 inch lifebuoy or two approved 24 inch diameter lifebuoys.
- One buoyant heaving line of not less than 50 feet in length.
- One bailer and one manual or power-driven bilge pump.
- Twelve pyrotechnic distress signals in a watertight container, of which not more than six may be daylight smoke signals.
- One anchor with not less than 50 feet of cable, rope or chain.
- Two fire buckets.
- One manual or power-driven pump located outside the machinery space with one fire hose and nozzle whereby a jet of water can be directed into any part of the vessel.
- Efficient bilge pumping arrangements.
- If the vessel is power-driven or is equipped with a cooking or heating appliance that burns liquid or gaseous fuel, one class BI fire extinguisher.
- Sufficient lights and sound signalling apparatus to permit the vessel to be operated in compliance with Part VI of Small Vessel Regulations.

### Over 65 Feet in Length

- One approved standard lifejacket or one approved small vessel lifejacket for each person on board.
- Two approved 30 inch diameter lifebuoys, one with a self-igniting light attached.
- One buoyant heaving line of not less than 90 feet in length.
- Twelve pyrotechnic distress signals in a watertight container, of which not more than six may be daylight smoke signals.
- One anchor with not less than 50 feet of cable, rope or chain.

## RECKLESS OPERATION

In general power-driven vessels are required to keep out of the way of sail boats, rowboats and canoes, but every operator must keep a proper lookout and must take every precaution which may be required by the ordinary practice of seaman, or by the special circumstances of the case.

## RECKLESS OPERATION

Anyone operating a boat, water skis, surf board or any towed object in a manner that is dangerous to navigation, life or limb, is guilty of an indictable offence and is liable to imprisonment or punishment on summary conviction.

The Criminal Code of Canada provides ample authority to deal with this offence which includes:

- Operating a vessel when impaired
- Towing a person on water skis after dark or without another person keeping watch over him
- Failure to stop at the scene of an accident

Charges can be laid against a reckless operator by "laying an information", a procedure which requires making a sworn statement before a Magistrate or Justice of the Peace.

## AIR CUSHION VEHICLES

Small amphibious air cushion vehicles are being increasingly used as pleasure craft and the safety of the boating public is directed to some of their manoeuvring characteristics.

The A.C.V. has virtually no contact with the surface of the water when in the non displacement mode and consequently depending upon wind direction and strength, it is sometimes less responsive to steering controls than are vessels with displacement hulls. This lack of contact sometimes results in the A.C.V.'s heading may therefore be no indication of its true forward motion.

Strong following winds can assist A.C.V.'s to reach very high speeds, but to offset this they are capable of being "ditched" readily and safely in a very short stopping distance.

Below the "hump speed" of about seven knots for the average two-seater A.C.V., the craft operates like a vessel with a displacement hull. It creates considerable wash and is sometimes difficult to manoeuvre. However once its "hump speed" is attained the A.C.V. creates no wash and handles much easier.

A.C.V.'s are subject to the International Regulations for Preventing Collision at Sea and the Rules of the Road for the Great Lakes.

## RECOMMENDATIONS TO A.C.V. OPERATORS

- \* Always be aware of wind direction and strength.
- \* Keep a constant check of speed at all times in relation to other water craft, especially when travelling with a tail wind.
- \* Always make steering control movements well in advance of the intended turning point.
- \* Maintain speed above "hump speed" when near boats or swimmers to reduce wash and provide controllability but never exceed 20 knots when within 50 yards of any shore.
- \* Always keep a lookout for swimmers to make sure they are not the "obstacles" over which the A.C.V. is capable of travelling.
- \* Bear in mind that your vehicle is often more maneuverable than conventional water craft and therefore you may be better equipped to take avoiding action.
- \* Do not expect an A.C.V. to slow down below "hump speed" when approaching other boats, swimmers or land because, as stated above, these craft will then create wash and be more difficult to manoeuvre.

## RECOMMENDATIONS TO OTHER WATER CRAFT OPERATORS

- \* Always be aware of the A.C.V.'s manoeuvring characteristics, in that its heading is not necessarily a true indication of its course.
- \* Do not expect an A.C.V. to slow down below "hump speed" when approaching other boats, swimmers or land because, as stated above, these craft will then create wash and be more difficult to manoeuvre.

Several organizations engaged in diving and in underwater operations have for many years used a distinctive signal in Canadian waters to indicate this.



This signal is not to be considered as a substitute for the International Code of Signals single-flag signal "A" indicating "I have a diver down, keep well clear at slow speed". It must, however, be considered as being in general use and it is liable to be encountered anywhere in navigable waters, particularly in those areas most frequented by small vessels.

The signal is in the form of a red square flag with a white diagonal stripe extending from the hoist side to the bottom of the fly and is to be exhibited by the vessel, marine plant or a floating marker.

The signal is only indicative of the underwater operation taking place and does not confer any special rights or privileges on the exhibitor.

Mariners and others concerned are advised to exercise particular vigilance and care when navigating in waters where this signal is exhibited.